CHAPTER 2

EFFECTIVE WRITING--FROM TASKING TO FINAL COPY

In this chapter, we'll discuss critical reasoning principles, creative thinking principles, and take you through the five steps of the writing process (research, plan, draft, revise, and proof). Along the way you'll discover how all these can help you become more effective as a writer and a speaker.

CRITICAL REASONING AND CREATIVE THINKING

Reasoning is the process of examining data (facts, information, evidence, observations, and experiences) and forming inferences, judgments, and conclusions from the data. Adding the term "critical" to reasoning may seem redundant; some argue that by definition reasoning is always critical. However, the reality is that much reasoning is on the superficial level; we quickly identify the problem and then implement a solution that seems to solve it. Too often in our rush to judgment we attack the symptom of the problem and the cause, short-circuiting the reasoning process. By adding the term "critical" we then must analyze our reasoning to ensure we have accurately identified the true problem. This also means that we have accurately analyzed the data, its implications and its end state, and have selected the best solution to implement.

Change within our military is the norm. It is not new; change has always been with us and will continue to be as long as there is an Army. The Army's expanding missions, the possibilities for improving organizational capabilities with powerful new technologies, and the reduced budgets and force structure all call for senior leaders who can lead their organizations toward innovative and workable solutions. The Army requires leaders who can create and contribute effective solutions to the many strategic, operational, tactical, and personnel issues facing the military. This is what we call "creative thinking."

When you apply critical reasoning and creative thinking principles to the writing process, you will enhance your communicative skills.

CRITICAL REASONING PRINCIPLES

The following eight principles of critical reasoning are tools you can use to guide your reasoning process. We know from experience that the application of these principles will both reinforce and improve your skills as a staff officer and leader.

1. PURPOSE, GOAL, OR OBJECTIVE

A truism is that all tasks have some purpose, goal, or objective. Failures to clarify the "why" we need to perform a task may or may not result in goals that are contradictory, confusing, or unrealistic. However, failure to clarify the "why" may limit our understanding of what we have done. Therefore, we must take the time to clarify what it is we want to accomplish. The application of critical reasoning skills helps us to examine the "why" behind any given task.

Critical reasoning skills help us to:

- Clearly state our purpose, our end state.
- Ensure our purpose is realistic and significant.
- Distinguish our purpose from related purposes.
- Check periodically to be sure we are still on target.

The island hopping strategy used by the United States in the Pacific against Japan in World War II is an example of a clear purpose. The purpose was to defeat Japan--not conquer every island the Japanese occupied. The US reasoning was sound in terms of focus on the purpose.

2. QUESTION AT ISSUE OR PROBLEM TO BE SOLVED

Whenever we attempt to understand something, there is at least one **question at issue** or one **problem needing a solution,** begging for our attention. The only way we are going to understand the issue or problem is to take the time to identify the underlying issues. We can only understand the issue or problem when we identify and ask the right questions.

Reasoning is an attempt to identify the true issue or problem and the right questions to ask. Therefore--

- Take time to clearly identify the issue(s) or problem(s).
- Identify whether it's a personal, organizational, or leadership issue or problem.
- Divide the issue or problem into subcategories.
- Identify the question(s) behind the issue(s) or problem(s).
- Express the question(s) in several ways to clarify meaning and scope.

The Vietcong in 1967 faced the problem of preparing a coordinated countrywide offensive to defeat South Vietnamese troops and gain control of the south. Their planning included disseminating propaganda leaflets in Vietnamese and English telling all that the Vietcong would lay down their arms and celebrate the Tet holiday and encouraging the Army of the Republic of Vietnam to do the same. At the same time the Vietcong continued the siege of the US Marines at Khe Sanh to divert United States attention from the rest of the country. With attention diverted, the Vietcong quietly moved 100,000 troops and supplies into key cities for what has become known as the 1968 Tet offensive.

Was the Vietcong's strategy successful? They were unsuccessful on the battlefield, but their efforts increased the American public's opposition to the war.

3. POINT OF VIEW OR PERSPECTIVE

Whenever we reason it is always from some **point of view**. A **point of view** is one's **perspective** on any issue or problem. A **point of view** reflects one's personality, educational development, experiences, and military position. Our continuing education and ongoing experiences help us to reason through issues and problems to reach solutions. As leaders, we must draw on our experiences and education and that of others to look at problems from multiple perspectives. Soliciting others' points of view will help us analyze and identify the hidden ideas underlying our assumptions.

Because reasoning begins with a point of view, we must--

- Identify our own point of view.
- Seek others' points of view.
- Identify the strengths and weaknesses of each point of view.
- Strive for objectivity in evaluating all points of view.

Always consider the enemy's point of view. The Vietcong and North Vietnamese perspective as seen in the Tet offensive were different than what the US planners had determined. The US reasoning that battlefield victories over the Vietcong and subsequently the North Vietnamese would win the war was erroneous because the US did not understand the enemy point of view.

4. DATA

Whenever we reason, there is some evidence that we use to support or reject a particular position. We call this evidence **data**. **Data** is the **information, facts, observations, and experiences** that may support or reject a given position or thesis. For example, your task is to report on the most significant technological advancement in warfare during the past 100 years. You need to identify what data you need, collect the data, analyze it to identify the supporting and opposing relationships, show how it supports and opposes various positions, and present your conclusions. Any defect or weakness in the **data** we use to support a position may be a possible source of problems.

Because we base our reasoning on data, we must--

- Identify what data we need.
- Search for information that opposes and supports our reasoning.
- Make sure all the data is clear, accurate, and relevant to the question at issue.
- Lay out the evidence to clearly identify supporting and opposing relationships.
- Restrict our claims to those supported by sufficient data.

5. CONCEPTS OR IDEAS

Reasoning uses some **concepts or ideas** and not others. These concepts include the **theories, principles, axioms (self-evident truth), and rules** implicit in reasoning. Any defect in the concepts or ideas serving as a basis for reasoning is a possible source of problems.

Because concepts and ideas shape our reasoning, we must--

- Identify key concepts and explain them clearly.
- Consider alternative concepts or alternative definitions to concepts.
- Make sure we are using concepts with care and precision.

The Japanese based their attack on Pearl Harbor on the concept that a large group of aircraft could destroy or badly damage an entire fleet. Their second premse was that destroying American naval capabilities would enable the Japanese to occupy the Pacific islands. Finally, they reasoned that by holding on to the islands they could win a negotiated peace. Because the first two parts of the Japanese concept were valid, that part of the reasoning was sound. However, the third part of the concept was not sound.

6. ASSUMPTIONS AND PRESUPPOSITIONS

Reasoning must begin somewhere and must take some things for granted. **Assumptions** and **presuppositions** are those things we often take for granted without examining; they are a part of life. They are essential conditions for any course of action to occur. We must clearly identify why our assumptions and presuppositions are essential or not, and reject those that are not essential. The following can help determine if our assumptions and presuppositions are essential.

- If the assumption or presupposition changes and the answer/conclusion changes, then it is essential.
- If the assumption or presupposition changes but the answer or conclusion does not change, then it is not essential.

Because our assumptions influence our reasoning, we must--

- Clearly identify our assumptions and check for their probable validity.
- Check the consistency of our assumptions.
- Reexamine the question at issue when assumptions prove insupportable.

7. INFERENCES SUGGEST CONCLUSIONS

Reasoning proceeds by steps: "Because this is so, that also is so," or "Since this, therefore, that." Premises and evidence underlay the process of deriving an inference or conclusion from facts or evidence. Premises and evidence lead to inferences that suggest one or more conclusions. **Inferences, therefore, are tentative conclusions that link premises and data to final conclusions**. If there is something wrong with our inferences, our conclusions are defective.

Inferences are tentative interpretations that we use to draw **conclusions** and give meaning to the data.

Germany anticipated the Allied invasion of Europe to come across the English Channel. German intelligence officers examined the many factors supporting an Allied invasion. Their estimates included the weather conditions in the English channel for June 1944. General Rommel carefully considered the extensive data he had on both German and Allied preparations. He knew the time was right for an invasion, but that the poor weather conditions of early June diminished the chance of an invasion. Therefore, he concluded the invasion would not occur until later.

The Allied intelligence community considered the extensive data they had on the German preparations to repel an invasion. They correctly concluded that the German Army would not expect an invasion across the English Channel during the poor weather conditions of early June 1944. This, with other factors, led to the final decision by General Eisenhower to begin the invasion.

8. IMPLICATIONS AND CONSEQUENCES

No matter where we stop our reasoning, there will always be further **implications and consequences**. An **implication(s)** is a claim or truth that follows from two or more premises. **Implication(s)** suggests possible **consequences** or results that may or will occur if certain premises are true. We must always ask whether we have clearly identified the **implications** of any and all courses of action and clarified the **consequences**. Military leaders are good at planning and executing missions; however, not everyone asks the questions: "What do we do when we win?" "What are the long-term consequences of this decision?" The implications for each decision may have unanticipated consequences, both positive and negative, for our military policy, operations, and personnel. Today's Army needs senior-level leaders who think beyond the normal end state or conclusion.

Reasoning leads somewhere--it has implications and consequences.

- Identify the implications and possible consequences of all courses of action.
- Search for negative and positive consequences for each course of action.
- Anticipate unusual or unexpected consequences for each course of action.
- Examine the implications and consequences from various points of view.

United States policy makers, in response to the request from field commanders, decided **not** to send US armor or mechanized forces to support the light forces carrying out the UN mission in Somalia. The bloody fight the Rangers had in Mogadishu bore out the implications of that decision. As military leaders we must ask ourselves what could happen if we fail to consider the implications of our decisions.

CREATIVE THINKING PRINCIPLES

Many writers have published checklists of factors that influence creative thinking. Leaders in the military and in industry have found these helpful. However, it is the principles behind the factors that are the most helpful. Once we understand the principles, we can use this knowledge to enhance our creative thinking skills.

The creative thinking principles are like signs pointing to conditions along the journey and our progress toward the destination; but they are **not** the conditions or the destination. What follows is a grouping of signs, or creative thinking principles, that influence creativity. We have grouped these into two categories: "enhancers" and "inhibitors" of creative thinking. As we understand these principles and begin to use them positively, we are on the way to enhancing our skills as creative leaders.

1. PRINCIPLES TO ENHANCE CREATIVE THINKING

Individuals, whether seen as creative or not, follow four principles when producing creative ideas. *First,* they develop the principle of initiative and versatility. *Second*, they prepare their minds to be receptive to ideas regardless of the source. *Third*, they generate ideas that may resolve the problem at hand. *Fourth*, they test or validate the new ideas to see if the ideas are any good.

a. Initiative and versatility includes bringing to life a new idea out of existing information. It is also being able to lead others toward effective solutions despite changing situations. It is what you, the leader, personally add to the process and how you go about it. *Initiative and versatility*, however, do not necessarily mean change, but a deeper understanding of why we are doing that which we do.

The Army's need for leaders who express *initiative and versatility* (FM 100-5) will always exist. *Initiative* "requires leaders to anticipate events on the battlefield so that they and their units can act and react faster than the enemy." "*Versatility* implies a capacity to be multifunctional, to operate across the full range of military operations, and to perform at the tactical, operational, and strategic levels." Both *initiative and versatility* describe the leader's skill in leading the organization. *Initiative and versatility* as applied to leadership are more an art than a science. True, leaders study all facets of military history, tactics, operations, and strategic level thinking; but it is in the application that leaders develop their skill as artists molding and shaping the organization to effectively accomplish a variety of tasks and missions.

b. Preparation increases our appreciation of new ideas. Preparation includes commitment to the task of collecting data by reading, listening, discussing, and reflecting on all data, whether or not the data fits the problem at hand, recognizing that if it does not fit this problem, it will probably fit another problem. We could argue that General MacArthur was mentally preparing for the Inchon landing during his entire career. His years of military experience prepared Douglas MacArthur to think creatively about the possibilities of a landing on the west coast of Korea.

Three techniques to prepare us for new ideas are *setting the stage*, *determination,* and *saturation.*

(1) Setting the stage.

- Recognize and begin overcoming inhibitors.
- Challenge assumptions.
- Define and redefine the problem statement.
- Recognize "idea killer" words and phrases.
- Model creative behavior.
- Minimize risk.
- Look for more than one good answer.

(2) Determination. The price of an idea is intensive, concentrated, conscious thinking. You must have a commitment to understand some truth, resolve a problem, achieve an objective, or to accurately understand what you are thinking. Your commitment is to discover new ideas and approaches for *the way we've always done it.* Your task is to bring chaos into order. Creative ideas often come from sheer stubbornness.

(3) Saturation. Research, research, research. Fill your mind with data. This step in creative thinking has no magic in it. It is hard, grueling, brain-beating work. Thorough, painstaking research is the foundation of creative thinking. Experience is part of research. Discuss ideas with the people who have *been there and done that;* they should know the most relevant information.

Thomas Edison's approach to a problem is a good example of saturation. He said, *"I am more of a sponge than an inventor."* When he wanted to discover something, he first read how others had attempted to solve the problem in the past. Then he gathered data from the others' experiments and studied that. This was only his starting point for his own attack on the problem.

c. Generation is the actual production of a new idea(s). This may not appear to be as much work as preparation, but it can require great effort in terms of patience. *Generation* involves letting your mind explore new directions, putting your subconscious mind to work, listening for the flash of illumination, the "*ah ha"* that suggests a possible solution, and visualizing solutions.

(1) Divergent thinking, a key concept during generation, is to let your mind explore beyond your normal self-imposed limits. Engage your curiosity and explore the many new avenues that appear before you. Follow your data and see what you discover.

(2) Incubation is the process of harnessing the power of your subconscious mind. The subconscious mind is the storehouse of all that we have learned and experienced in our lifetime. In some mysterious way your subconscious mind works to create new concepts or patterns from existing ideas. It's always working behind the scenes. It provides answers when your attention is on something else. The secret to using the subconscious mind is to refocus your attention. This is the time to relax, loaf, let go, walk away from your problem, and let your subconscious take over.

(3) Illumination is the actual flash of creative insight that comes from your subconscious mind during a period of incubation. There are specific ways in which you can stimulate and increase the

flashes of illumination. Maintain an attitude of quiet expectancy. Keep your mental door open. Believe the idea you need will come to you. Do not reject ideas too soon or discriminate against them too rapidly. Remove all barriers of critical judgment. Allow for the free flow of ideas.

Once ideas begin to come, write them down--at once! Many good ideas have escaped forever because people trusted their memories. *"The strongest memory is weaker than the palest ink,"* says a Chinese proverb.

(4) Visualization is useful in generating ideas from shapes, forms, or patterns. There are two steps to visualizing when generating ideas. The first is to actually see the image or picture of your idea. The second is to make your image do something; control it. Your visualizing begins with something you have seen. Then you can manipulate that image into creative ideas. With practice, you can become familiar with controlling the mental pictures you have.

d. Validation is when you test or validate the new idea(s) to see if it is any good. Every idea needs validation. This requires thinking that is more convergent in nature. Convergent thinking encourages knowledge, decision, and valuation. Test the idea. Conduct experiments.

Validation has to do with "proving, confirming, and substantiating" ideas. There is sound wisdom in having validation come at the end of the creative process. To interject judgment and critical analysis during preparation and generation would stop the flow of ideas. Idea stoppers say *It can't be done, It won't work, It is impossible.* Idea stoppers stop ideas in their tracks.

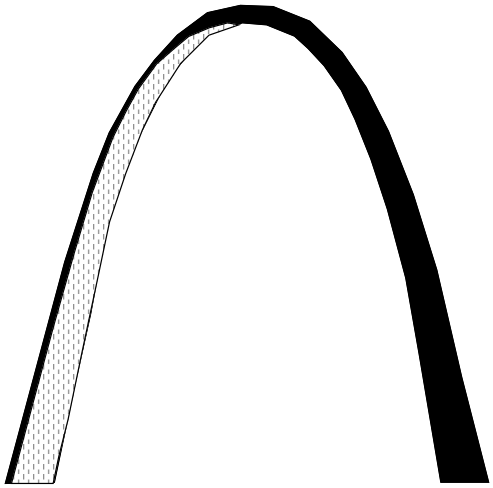
As you check and evaluate, you'll find the stockpile of ideas a gold mine of possibilities. The idea you laughed at, on analysis, may contain a hint for a completely new approach to an important problem. An idea that seems farfetched on the first hearing may open the way to the development of a new plan.

You'll find raw ideas that you can shape and polish into usefulness or wild ideas that you can tame and harness to specific tasks. You will discard some ideas, but others, however, will be priceless.

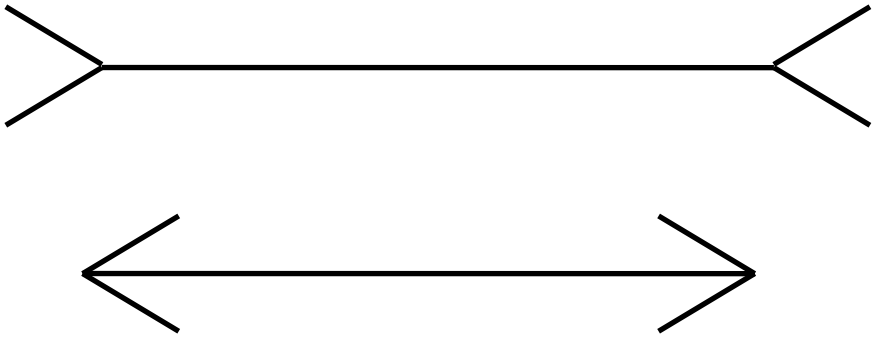
2. BIASES THAT MAY INHIBIT CREATIVE THINKING

We all have biases that inhibit our creative thinking abilities. We've even allowed these to influence how we respond to situations, ideas, information, and decisions. The following biases are the most common inhibitors to creative thinking.

a. Perceptual bias says that what we see or understand may be different from actual reality. Our perceptual bias can prevent us from accurately seeing or understanding the problem or the information that will help solve it. For example, look at the following picture of an arch. Is the arch taller than it is wide, the same, or wider than it is tall?



The arch is as wide as it is tall. However, knowing that it is the same width and height does not change our visual perception. Visually it continues to appear taller than it is wide. Another example is the Muller-Lyer figure. Which of the following lines is longer?



When you measure the lines above you discover they are the same length. However, our visual perception sees the top line as longer than the bottom line. We call these perceptual biases.

b. Mental bias, like perceptual bias, influences our view of reality. For example, which would you rather have hit you a pound of lead or a pound of feathers. I suspect that on reading this question your own bias automatically took control. What went through your mind? What picture did you see? We see feathers as fluffy and light while lead is dense and heavy. Both, however, weigh the same, one pound. What we see is a perceived difference in weight between feathers and lead. This perception includes the idea of force. We perceive that the force we use to lift an object equals the amount of damage the object can cause on impact. A pound of lead is smaller and harder to grasp than a pound of feathers. Therefore, we conclude that because it requires greater force to lift a pound of lead, it will cause more damage on impact.

We perceive that an object requiring greater effort to lift is heavier than the scales indicate. The reverse is also true. We perceive that an object that is easy to lift is lighter than the scales indicate. For example, place a small bowl filled with 8 ounces of water and a cup filled with 8 ounces of water on a table. Have a subject pick up the cup with one hand, and with the other hand the bowl, and then tell you which is the heavier. Invariably the subject will report that the cup is lighter than the bowl. The only difference is that the cup has a handle while the bowl does not.

Our mental bias is to continue investing in any project in which we have already invested a large sum of resources. We want to believe that by continuing the investment we will complete the project. Suppose that you have invested $200 in tickets so you and your spouse may attend the Infantry Ball at the Westin Crown Center in Kansas City, MO. On the evening of the Infantry Ball there is a terrible snowstorm that makes the drive from Fort Leavenworth to Kansas City hazardous. However, the leaders have not called the ball off. How likely are you to make the drive? If you had not yet purchased your tickets to the ball but plan to buy them at the door, how likely are you to make the drive? Consider a third alternative where your commander has purchased your tickets and you are to pick them up at the door when you and your spouse arrive. Will you make the drive through the storm to attend the Infantry Ball?

Perceptual and mental biases may prevent us from accurately understanding the problem or the data that will help solve it. On the other hand, an understanding of our biases can help us to understand why we need to accept or reject a given bias. For example, we may have a bias of establishing numerous boundaries around an issue. There are times when we need few boundaries and at other times more boundaires. However, unless we understand our biases we may accept a bias when it may be best to reject it. Some biases to consider include:

- A tendency to establish too many boundaries about an issue.
- Stereotyping or seeing what we expect to see.
- A failure to use all our senses.
- Getting stuck on the obvious.
- Protecting our investments.

c. Cultural biases include taboos, traditions, and proverbs that we use to explain why we can or cannot do something. It also includes our predisposition to pursue data supporting our viewpoint while downplaying contradictory evidence. Our *cultural bias* is part of who we are and helps us to make sense of our world. However, unexamined *cultural biases* may provide inappropriate or wrong answers. It is important that we become aware of how our culture influences our thinking.

- "It is common sense."
- "We've always done it that way."
- Reason, logic, numbers, utility, and practicality are good; feeling, intuition, qualitative judgments, and pleasure are bad.
- Tradition is preferable to change.

Recognizing our biases and how they inhibit creativity takes us a long way down the road toward increasing the effectiveness of our creative thinking. Some techniques you can use to examine your biases include:

- Identify what biases you may bring to the problem at hand.
- Ask others to identify what they see as your biases that affect the problem at hand.
- Ask questions to clarify your biases.
- Identify what affect your biases have on your problem.
- Make and implement a plan to use your biases appropriately.

STANDARDS

Standards assist us to determine the quality of our reasoning and thinking on any topic. Your application of following standards can help you evaluate your process reasoning and thinking. These standards are not new. You have used them in many different circumstances. It's just that you have probably never given any thought about how you do it, nor how they enhance your communicative skills.

We have included a series of questions that you can use to use to evaluate your thinking.

1. CLARITY. Clarity requires that we express our thoughts clearly. For example, have we clarified our purpose so that it is clear to all or did we muddy the waters so no one understands our intent. Clarity helps us to judge the relevance, depth, significance, and accuracy of our ideas, recommendations or decisions.

- Could you express that idea in another way?
- Could you elaborate further on that point?
- Could you give an example or illustration that clarifies that point?

2. ACCURACY. Accuracy describes a product or decision that is free from errors, mistakes, or distortions. Correct, on the other hand, only denotes that there are no errors. When we strive for accuracy we imply that we try to conform to some truth or standard. Some questions to help us acchieve accuracy are:

- What evidence supports that assertion?
- How can we check for the validity of the evidence?
- How can we verify or test the assertion?

3. PRECISION. Precision describes the quality of accuracy and exactness. A M16A2 match rifle differs from a standard issue weapon in the sights, barrel and stocks. Manufactures have machined the sights to closer tolerances on the match rifle than on the standard issue. We say that the sights are precise, that is, manufacturers hold them to closer tolerances so that soldiers can make accurate adjustments.

- Could you be more specific?
- Could you give me more details?
- How can we narrow the focus?

4. RELEVANCE. Relevance suggests that a close association exists between the subject and the data. Our task is to clarify if indeed there is an association and how strong it may be. Some questions that can help us explore the relevancy include:

- What is the relationship between the subject and the problem?
- How is this connected to the problem?
- How does this affect the problem?
- How does this help us with this issue?

5. DEPTH. Depth in contrast to surface knowledge seeks to understand the complexities of the subject under investigation. To asses depth, ask these type of questions:

- What are the complexities of this problem?
- How does an understanding of these complexities increase understanding of the problem?
- How does your answer address the complexities of the problem?

6. BREADTH. We may satisfy all of the above standards for assessment, yet have a narrow focus that prevents us from considering other points of view that may affect the problem. We need to ask ourselves:

- What are the other points of view that affect this problem?
- Can we look at this problem from another perspective?

- How would a conservative, a liberal, or an opponent understand this issue?
- What would this look like from the point of view of an enemy?

7. SIGNIFICANCE. When we say something is significant we are ascribing importance to it. There is a danger, however, that we may equate significance with relevance. The two are not synonymous. We may describe something as being relevant to the problem, but it may have no significance. For example, easy to read election ballots are relevant to a fair election but are not significant if the problem is ballot box security. Here are a few questions that can help you clarify the significance of each issue and its relation to the problem:

- Is this the most important problem to consider?
- Is this the central idea or issue?
- Which of these facts are most important?
- Which will have the greatest effect on the problem?

8. LOGIC. Logic refers to the relationship between ideas. It includes the order in which we place a variety of thoughts and how they support each other. Logic includes the rational conditions effecting whether an event will or will not take place. Logic includes the assumptions that underlie any discipline whether it be academic, business or military. The principles of logic follow two basic patterns: non-deductive and deductive reasoning.

The most common type of non-deductive reasoning is inductive. Using inductive reasoning we gather data to support a hypothesis (the scientific method), or make observations that we then use as evidence to make an inference or generalization. Such predictions always require a "leap of faith" that goes beyond the narrow confines of the available data. So, although inductive arguments enable us to reason critically even when the content of our conclusions exceeds the content of the premises, we must keep in mind that even the most accepted of scientific laws may change as new data becomes available. For example, people believed the world was flat until the evidence proved this was a false belief.

Inductive arguments consists of premises and a conclusion. The conclusion is a statement of the point of view which the author wants us to take away from the argument. The premises are statements which contain the evidence to support the conclusion. Inductive arguments with true premises generally are judged successful if the premises are true enought to make it unlikely for the conclusion to be false. Inductive reasoning lacks the certainty that sound deductive reasoning provides. The conclusion of the argument may only be probably true--even if the premises are true.

The military regularly uses inductive reasoning. The intelligence preparation of the battlefield (IPB) process is one which makes full use of inductive reasoning methods. Another examples is a deception plan. A good deception plan counts on the enemy's use of inductive reasoning toe reach the conclusion we want him to reach.

Deductive reasoning moves from premises based on generalities to a conclusion about a specific situation. To reason effectively, we must start with premises that our audience generally accepts. As with inductive logic, we must be wary of fallacious thinking and patterns of reasoning that look persuasive, but don't hold up to scrutiny.

We analyze deductive reasoning using the ideas of validity and soundness. A valid deductive argument is one in which the premises support the conclusion structurally. In other words, there is a step-by-step, logical progression from the first premise to the conclusion. Validity is not an assessment of the truth of either the premises or the conclusion. Validity only describes the structure of the argument, not the truth of the premises or conclusion(s). If the premises of a valid argument are true it is impossible to get a false conclusion. A sound argument contains both a valid structure and true premises.

STEPS TO EFFECTIVE COMMUNICATION

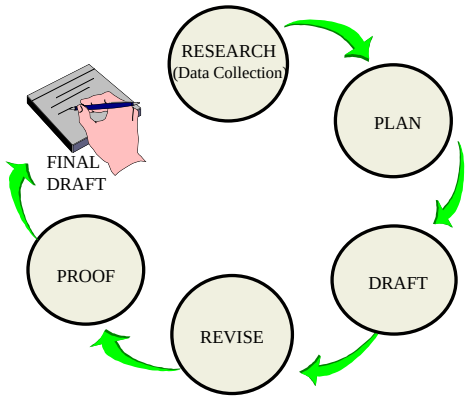


Figure 2-1

Research

All writing begins with research of a given topic. Organized and focused research provides a wealth of material that improves the quality of a product. The tasking may come from a job requirement, professional development, or a college class. The "research" to complete this tasking consists of finding information, making notes, expounding on the notes, and documenting the sources.

We conclude that because we documented the sources and included a bibliography we've done research. Indeed we did gather information, documented the source(s), and created a bibliography. Yes, what we have done is part of research. At best, however, our efforts are merely "pseudo-research." ***Whenever we fail to tell the reader how the facts and ideas support our thesis, we have not completed the tasking. We are merely scribes who collect and describe information, but we are not researchers***.

1. WHAT IS RESEARCH?

Research is a process to systematically gather information to find the answer to a specific question or to develop the solution to a given problem. The process itself has several distinct characteristics:

- You begin with a question that you cannot answer with a yes or no.
- You must have a clearly stated purpose.
- You divide the primary problem into subproblems.
- You make educated guesses (hypotheses) based on specific assumptions.
- You develop a specific plan of action.
- You only accept information, evidence, facts, observations, and experiences (we call this data) relevant to the problem.
- Your investigation has an audience.

Your research consists of asking questions and finding answers. Some questions that you may use to identify the problem, establish your purpose, analyze the data, and draw valid conclusions include:

- What is the real problem?
- What is your purpose in answering the problem?
- What are the subordinate questions you must answer to solve the problem?
- What are your educated guesses (hypotheses) that suggest solutions to the problem?

- What are the assumptions behind your educated guesses?
- What is your research plan?
- What type of information do you need?
- What is your plan to analyze the information (data)?
- Why does your information support your hypothesis? Why not?
- What conclusions can you draw from the data analyzed?

a. You always begin with a question you cannot answer with a yes or no. **Whenever you attempt to answer a question that requires more than a yes or no answer, you have a problem requiring research**. For example, you've received orders assigning you to a joint task force responsible for extracting US troops from Haiti on the completion of a military intervention to quell political and social unrest. The task force can answer the question, "Will we remove our military forces from Haiti?" That question only calls for a "yes" or "no" answer. By definition the question does not call for any research. However, when you ask, "What **conditions** must be met before we extract our military forces from Haiti," you then have a problem that requires research.

b. You must have a clearly stated purpose. The mere statement of a research problem only gives you direction for research. Compiling information without a purpose is merely collecting facts, opinions, and ideas on a given topic that only has value to the individual. **You must identify why you need to answer the research problem**. "Why" provides purpose for your efforts. Purpose provides you with direction, while helping you and your audience understand what you want to accomplish. For example, consider the US involvement in Haiti. Your task may be to--

- *Protect soldiers from the danger of armed confrontation with Haitian nationalists.*
- *Convince the media that the intervention is in the best interest of the Haitians.*
- *Extract US troops from Haiti following a successful intervention.*
- *Restore public confidence in the Haitian police force.*
- *Protect lives and property of all Haitians.*
- *Establish democratic elections.*
- *Convince the State Department that Haitians are ready to manage their own affairs.*
- *Convince the United Nations that Haitians are ready to manage their own affairs.*

Each of these tasks suggests numerous purposes. Each purpose also provides you with numerous **points of view, frames of reference,** and **perspectives** that you must consider. Your immediate concern is to identify a specific purpose to pursue. Let's say your task is "to establish democratic elections in Haiti." You can identify your specific purpose by asking questions of the person who gave you the tasking. Two possible purpose questions are:

- Is this to be a one-time democratic election so that we can expedite US troop withdrawal?
- Is this to be an electoral system that will continue after US troop withdrawal?

Let's say you've identified your purpose as "to establish a democratic electoral system in Haiti that will continue after US troop withdrawal."

c. You need to divide the primary problem into subproblems. There are several subproblems that you need answers to before you can fulfill the purpose behind your tasking. Each subproblem directly affects your purpose. It is imperative, therefore, that you take the time to identify the subproblems that directly affect your purpose. Some subproblems may include:

- *What is the current Haitian electoral system?*
- *What is the Haitian confidence level in the electoral system?*
- *What do you need to increase the Haitian confidence level in their electoral system?*
- *What elements of the current system are still valid?*
- *What elements are no longer valid?*
- *What conditions would ensure a just electoral system?*
- *What is the level of education of the population?*
- *What would prevent people from voting?*
- *What would encourage people to vote?*

The answer to each of these subproblems will help you develop *a democratic electoral system in Haiti that will continue after US troop withdrawal.*

d. You make educated guesses (hypotheses) based on specific assumptions that direct your thinking toward possible solutions. ***(Research reports will include this step, but an essay may not.)*** An educated guess may reflect one or more **points of view** which helps you to focus on the problem. Now let's make some educated guesses to identify factors that may create voter abuse.

- *Less than 30 percent of the population can read or write.*
- *Polling places are outside of the population centers.*
- *Election ballots are confusing and hard to understand.*
- *The lack of security for ballot boxes increases the likelihood of fraud.*

Each of the foregoing factors may create a situation for voter abuse. You need to examine each factor and determine whether a valid assumption supports it or not.

An assumption is a self-evident condition that you need to complete your research. You discover the assumptions by asking yourself "What is it that I'm taking for granted?" For example, if you are evaluating computer-assisted training for soldier development, your assumption may be that soldiers can read. If they cannot read, then your educated guess is invalid.

Now let's consider the first assumption, "Less than 30 percent of the population can read or write." This statement assumes that an illiterate population may increase the potential for voter abuse. If this assumption is false, then a condition exists which nullifies part or all of your investigation. Remember**, *an assumption is a self-evident condition that you need to complete your investigation***. Before accepting any assumption as valid, you need to determine whether the self-evident condition nullifies or supports your investigation. On the other hand, some assumptions are so self-evident that you may err by not identifying them. ***Without identifying your assumptions you won't know if they are valid or invalid***. It is necessary that you take the time to identify your assumptions.

e. You must develop a specific plan of action. Military operations begin with a clearly stated purpose. Implementation requires a specific plan of action. Research requires the same. You identify your purpose and then develop a plan to discover the information needed to answer the question. It then becomes important to consider where you will find your research data. Just as important is to consider how you are going to analyze the data to ensure you recognize and understand its significance for your

research.

f. You only accept information, evidence, facts, observations, and experiences (data) relevant to the problem. Every problem has many factors. Some are relevant while others may have nothing to do with the solution. Your task is to determine what data is relevant and then to collect it. However, what you collect only becomes significant when you use your mind to extract meaning from it. Data demand interpretation; it cannot stand alone. It must pass from your notes through your mind for processing and interpretation. Data that passes from the raw stage to the final product without interpretation are merely the regurgitation of meaningless ideas.

g. Your investigation has an audience. Your investigation never takes place in a vacuum--there is always an audience. You may be seeking to develop a new fuel efficient engine for lawn mowers. If this is a task that benefits only one person, then your audience is one person. However, if your purpose is to increase your income, then your audience quickly expands to include manufacturers, financial leaders, and those wanting a fuel efficient engine for their lawn mowers. Returning to the Haitian incident, for example, you can readily identify several audiences. Your purpose is to develop a democratic electoral system for Haiti. With this as your task, your audience includes the Haitian populace, Haitian politicians, the United States (President, Congress, State Department), and the United Nations, as a minimum.

2. BEGINNING YOUR WRITING.

Getting started is probably one of the greatest difficulties that skilled and unskilled researchers and writers face. There is always a wealth of data you can develop. The only problem is trying to get a grip on where to start.

a. What is the requirement? Your first step is to understand clearly what the actual requirement is, not just what you think it is, before plunging into your investigation. You have probably read or written a document that clearly was not what the boss wanted. Your task is to clearly identify the requirement that underlies the task (see fig 2-2).

Clarification of the requirement calls for you to use good critical reasoning skills to ensure you understand the requirement, its ramifications, and what you need to accomplish. The first part of chapter 2 gives an overview of proven critical reasoning and creative thinking principles. These principles are indispensable to researching, writing, speaking, directing tasking of peers and subordinates, and ensuring you understand taskings from superiors. Before proceeding further, we recommend you review pages 2-1 through 2-9, Critical Reasoning and Creative Thinking.

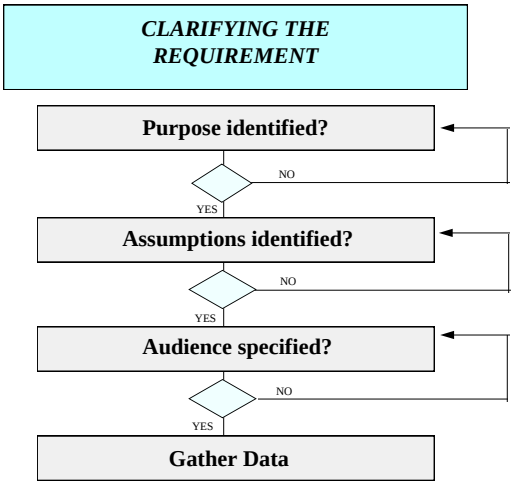


Figure 2-2

b. Gathering data. Your second step is to begin gathering data. The question is "where do you begin looking." One helpful technique is what we call *mindmapping.* Mindmapping is a structured brainstorming technique that emphasizes capturing the free flow of ideas and discovering the relationships within and between the ideas. It is an especially effective tool to help you identify what you already know about a given topic along with showing you where you need more information.

For example, you've just reported to the team tasked with developing a plan that ensures the safe withdrawal of US forces from Haiti. The team must also satisfy all the key players' (President, State Department, Congress, DOD, and United Nations) requirements. Your team leader knows your undergraduate and graduate studies focused on Caribbean history. During the inbriefing, your team leader tasks you with putting in place an electoral system that ensures fair and democratic elections in Haiti.

(1) First, take a sheet of paper and record in the center the general topic of your paper. (You may also use electronic media to do mindmapping.) In this case, you would write the words *Haitian Elections.* Underneath the topic, write down who the paper is for, your audience: Haitians, Politicians, United Nations, and United States (see fig 2-3).

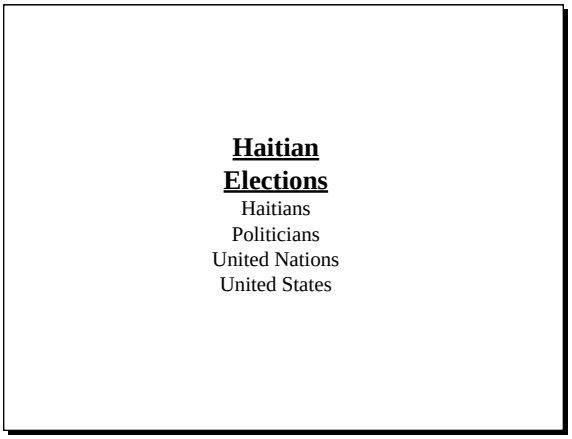


Figure 2-3

(2) Next, randomly record everything you know about the topic and your audience (see fig 2-4).

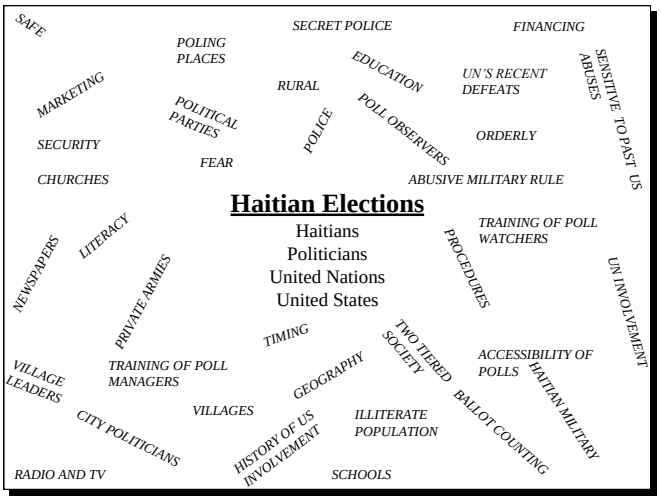


Figure 2-4

(3) Look over your notes and identify the relationships among the ideas you have recorded. Try to tie these ideas together using symbols and lines that help you to see them (see fig 2-5).

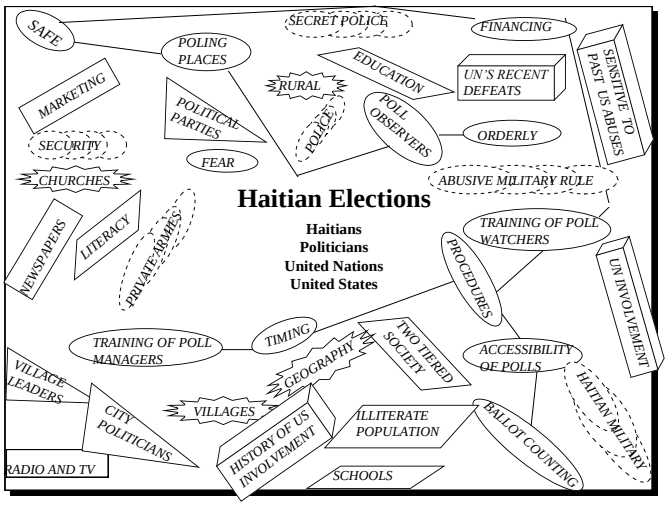


Figure 2-5

(4) Finally, transfer these relationships to another sheet of paper. At this point you will begin to see the possible major parts of your research along with holes where you need more information (see fig 2-6).

FAIR AND DEMOCRATIC ELECTIONS FOR HAITI

Possible Problems
Haitian military
Haitian political parties
United Nations Observers
Private Armies
Secret Police
UN lack of will & overseas defeats
US Congress' unwillingness to get involved
State Department

Haitian Society
Two tiered --rich and poor
Most are illiterate
Poor school system
Wealthy are literate
Port au Prince--only major city
Rural society
Fear and ignorance
Churches and Religious Traditions

Media
Newspapers
Television
Radio

History of Haitian Politics
Dictatorships
Secret police
Democracy overthrown
Abusive military rule
Private Armies

History of Interventions
United States Military
UN involvement
Haitian's attitude

Electoral System Needs
Poling Places
Financing
Poll Observers
Poll Managers
Training
Accessibility of Polls
Security
Ballot Preparation
Ballot Counting
Safe

Figure 2-6

Now you can use your time effectively to collect information on specific areas where you need further data rather than trying to research everything on developing an electoral system for Haiti. This also leads you to the planning phase of writing.

Another technique to capture what you know and don't know about a topic is what we call *fishboning*. Fishboning, unlike mindmapping, first divides the topic into its major divisions. Each major division serves as a branch off of the topic. Next you divide each division into its many elements or branches. This helps you identify your general and specific knowledge about the topic (see fig 2-7).

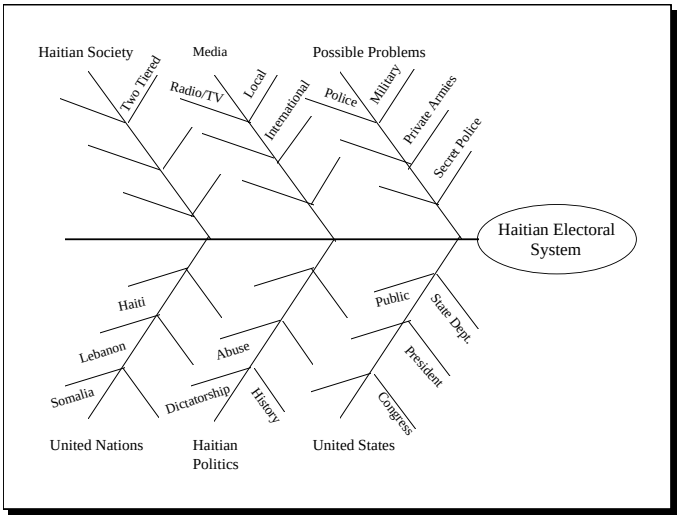


Figure 2-7

c. Thesis statement. The problem you are investigating is at the very heart of any report, paper, or research. This is the most important element of your writing. It is here that you clarify the problem. This is the point where many writers fail--they are not able to tell their audience why the topic merits serious consideration. The thesis statement tells the audience why the topic demands attention. You do this by clearly stating your topic and your purpose (or assertion) on the topic. Your position is what you want to accomplish.

Thesis = Topic + Your purpose or assertion on the Topic

The statement *Creating an electoral system for Haiti* is merely a topic. It fails to tell the reader why the topic is important. Look again at the Haitian scenario. You have received a task: to develop an electoral system that ensures fair, democratic elections. This task is not a thesis statement, but you can make it into one.

Let's take this task and see how you can accomplish this.

Topic: The Haitian Electoral System.

Position: To create a fair and democratic electoral system for Haiti.

Thesis Statement: This new Haitian electoral system will ensure fair and democratic elections.

Notice that by restating the topic and purpose as a thesis statement you have done two things: identified the topic and made an assertion that you can write about. You can also come up with several other thesis statements for the topic. Each one will take a different direction. The following are some examples.

Topic: Creating an electoral system for Haiti becomes:

People who feel safe will vote their conscience.
A democratic electoral system will work when we eliminate private armies.
A democratic electoral system will work when we enforce the law equally.

Plan

Good writing follows a plan. The plan tells your reader what your thesis is and its major reasons. It presents facts that support each major reason. It shows your analysis of the facts, opinions, and ideas that support your thesis. It concludes with a brief summary restating your thesis.

A good plan is like an outline of your thinking. Some writers produce detailed outlines that set forth item by item what their paper will look like. Other writers operate from a mental outline that they use to develop their product. Both methods have advantages and disadvantages. The major disadvantage of relying on a mental outline is ensuring you have covered your topic in sufficient detail to support your thesis. The written plan, on the other hand, helps you to see if you have covered the topic in sufficient detail. A written outline helps you to readily see holes in your research, areas that you need to consider further before writing your first draft. This is where your critical and creative thinking skills become evident.

Outlining is like designing a pyramid from the top down. You begin by selecting the topic and forming it into a thesis statement. This becomes the capstone of the pyramid. The next layer of stones consists of your major points. The subsequent layers consist of your evidence and analysis. Your analysis explains or illustrates the importance of the evidence with respect to the thesis. When you finish you have what we call a "Pyramid of Support" (see fig 2-8).

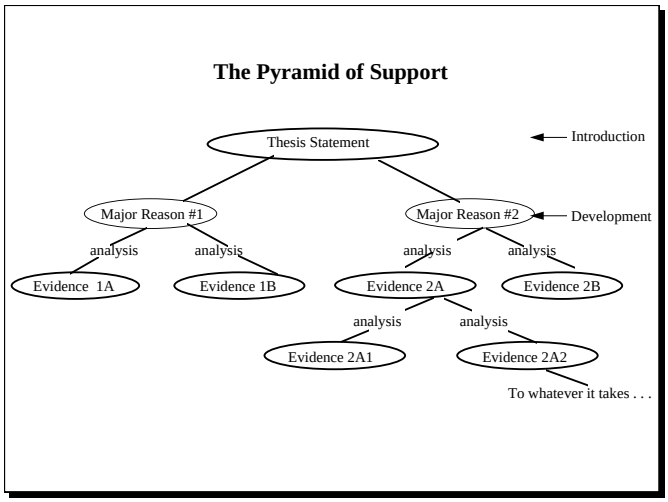


Figure 2-8

A good plan also includes evidence along with an analysis to help your audience understand how it supports your major and minor reasons and your thesis. Evidence (facts, experiences, opinions of experts, and other data) by itself may or may not support your thesis. Your task is to show your audience through your analysis how the evidence supports and illustrates your thesis. How you arrange your material (the outline) can help your audience understand what you have to say.

Although outlines can assume many forms, the key elements are always the introduction (which includes your thesis statement and a listing of your major points), the development of the thesis, and the conclusion. The rest is like icing on a cake to improve the appearance and make it attractive to the audience (see fig 2-9).

EXAMPLE OF HOW TO BUILD AN OUTLINE	
I. Introduction A. Attention Step, Purpose, or Context--when necessary B. Thesis Statement (Bottom line) C. List of Major Reasons Supporting the Thesis Statement	*B and C may be reversed.*
II. Development A. Major Reason #1 --Evidence 1 and analysis --Evidence 2 and analysis --Relevance to thesis/bottom line Submit in a logical order B. Major Reason #2 --Evidence 1 and analysis --Evidence 2 and analysis --Relevance to thesis/bottom line C. (Other major reasons when necessary)	*If you list the major parts in your introduction, use the same sequence in development.*
III. Conclusion A. Review of Major Reasons and Support of Thesis B. Thesis Statement Application (to provide information or to persuade) C. Recommendations (further research, etc., as appropriate)	*Sequence appropriately.*

Figure 2-9

An outline is the plan you develop to lay out your writing. Your plan needs to consider the

introduction, transition, major and minor reasons, transitions between major reasons, and transition to your conclusion. The following diagram (fig 2-10) illustrates the basic structure. (A sample essay illustrating the CGSC approved format is at app A.)

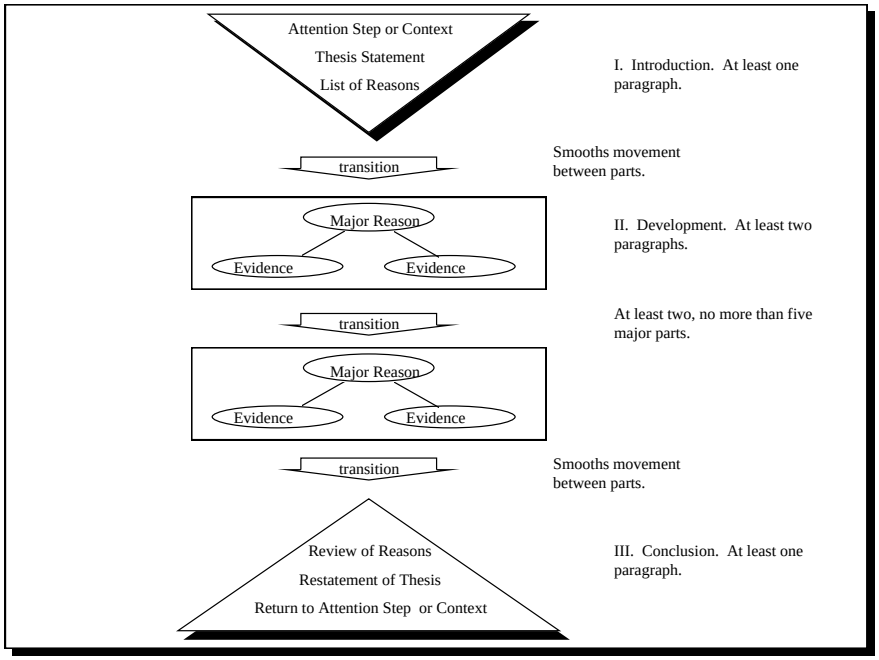


Figure 2-10

Draft

The purpose of drafting is to dump very quickly ALL you have to say onto the page. Your focus needs to be on the substance and organization of your document, not on what the final product may look like. Remember, you are producing your first draft. It will not look like your final product. However, when finished, it should contain the substance you need to communicate. Two techniques can help you accomplish writing the first draft: (1) use your outline, and (2) draft quickly.

Use Your Outline.

Your outline will help keep you focused on both the substance and organization of your paper. When using a computer to compose your text, we suggest you print out your outline and place it where you can see it clearly. Place any quotations, references, and supporting documents in the order they occur in the outline. Now begin writing. Follow your outline and insert supporting material as needed.

Draft Quickly.

Write quickly as the ideas come to mind. Don't worry about the perfect word or the just-right sentence. The purpose is to capture the ideas that race through your mind. It is very easy to lose an important idea whenever you pause to capture the right word or sentence. Therefore, write as rapidly as you can and capture those great ideas that grabbed your attention.

Revise

Good writers are invariably good revisers. They are able to set aside "pride of authorship" and critically review what they wrote. Ernest Hemingway would agonize for hours over the revision of a single paragraph. James Michener never saw himself as a good writer, only a good rewriter.

Many writers don't revise well for three reasons: (1) they don't know how; (2) they find it difficult and avoid it; or (3) they don't schedule enough time. Good writers set aside sufficient time just for revising. At the appointed time, good writers sit down and begin the revision process following established criteria to review and revise their writing. You may find the following criteria helpful as you begin your revision process. (App B contains a list of one-syllable words to try and app C contains a helpful checklist to assist you with revising your paper.)

a. Clarity. Clarity is the gateway standard. Clarity requires you to explain, illustrate, give examples, interpret, elaborate, refine, and resolve. Writers often confuse their readers by using jargon that only a few understand. You must express your thoughts clearly: make your thoughts distinct, understandable, and vivid so they become obvious and evident to your reader.

b. Accuracy. A statement can be clear but not accurate. Does the evidence support your assertions? Can you or others verify or test what you say for accuracy? Have you hit the right target?

c. Precision. A statement can be clear and accurate, but not precise. Are you specific? Is the detail sufficient to support your position? Is your focus too broad, too narrow, or about right? Have you placed all rounds in the target area?

d. Relevance. A statement can be clear, accurate, precise, but not relevant to the question at issue. Have you shown your reader how your position is part of the problem, how it addresses the question, and how it helps to resolve the issue?

e. Depth. Your document may have all of the qualities of good writing yet lack depth. Superficiality is a problem common to many writers and speakers. Does your writing identify those factors that make this a difficult problem? Have you considered the complexities underlying the subject? How do you address these complexities? Are you dealing with the most significant factors or merely superficialities?

f. Breadth. A line of reasoning may satisfy all of the above standards for assessment, yet lack breadth. Have you identified and considered other points of view? What are they? How do they relate to your problem?

g. Significance. This standard is often linked to relevance, but the two are not synonymous. Something may have relevance to the issue at hand, but have little or no significance. Have you really addressed the central idea? You list facts and other data but which are the most important? Which will have the greatest effect on the problem? Why? Why not?

h. Logic. When we write, we bring a variety of thoughts together into some order. When the combinations of words are mutually supporting and make sense in order and combination, we say our writing is "logical." When the combinations of words are not mutually supporting, are contradictory in some sense, or do not make sense, we say that our writing is "not logical."

i. Documentation. Whenever you use other sources in your document, you may quote the source directly, paraphrase, or summarize. When you do this you must document your sources using the CGSC approved standard: Kate L. Turabian, ***A Manual for Writers of Term Papers, Theses, and Dissertations*** (Turabian). We recommend that you obtain a copy of this manual. Copies are available in the Bookstore and in the Combined Arms Research Library.

Turabian allows students to document sources using either endnotes and bibliography or parenthetical notes and bibliography. If you choose endnotes place then you must place them in front of the bibliography, not at the end of each chapter. Your bibliographic entries may be either alphabetic or grouped by publication type (e.g., books, journals, oral history, etc.). If you choose the parenthetical notational method then you need to organize your bibliography alphabetically. "The parenthetical, or author-date, reference system...consist of two basic elements--authors names and dates of publication--usually in parentheses" and placed in the text (Turabian, 1996). (See Turabian Chapter 10, 6th ed. for examples of parenthetical notes.)

Turabian provides a wealth of data on how to document. However, some editions do not provide adequate direction for documenting military publications and internet sources. Use the following examples as a guide whenever you document military manuals or internet sources.

(1) Military manual or student text. You will need to identify the organization, the office that generated the publication (if given), the publication number, the title, the page number(s), the proponent's location, and the date of publication.

Bibliography:

Organization, specific office (if given), publication number, *title*, and page number(s). Proponent, location, date of manual.

U.S. Department of the Army, Command and General Staff College, Student Text 22-2, *Writing and Speaking Skills for Senior Leaders*, 3-2, 3-17. Fort Leavenworth, Kansas, 1998.

Endnote:

[1]Department of the Army, U.S. Army Command and General Staff College. ST 22-2, *Writing and Speaking Skills for Senior Leaders* (Fort Leavenworth, KS: USACGSC, August 1998), 2-5.

Parenthetical Note:

You will find Turabian helpful in documenting your sources (ST 22-2, 1998).

(2) On-line books or web sites. The following example illustrates how to document an on-line publication. Begin with the author's name and the title of the publication. Right after the title place in brackets [ ] the word *On-line*. Next insert the city and state, the publisher, date of publication, when you accessed the publication, and the internet address where you found it.

Bibliography:

Grant, William S. "The Battle for Richmond, 1862." [On-line], (Williamsburg, VA: William and Mary College Press, 1992, accessed 1 October 1997). Available from http://www.wmpress.his.edu/index.html; Internet.

Endnote:

[1]William S. Grant. "The Battle for Richmond, 1862." [On-line] Available from http://www.wmpress.his.edu/index.html; Internet: accessed 1 October 1997.

Parenthetical Note:

... (Grant, 1862).

(3) There are times when you must include an acknowledgement citation or content notes. These citations will appear as endnotes placed before the bibliography.

j. Plagiarism. One problem military writers confront is plagiarizing. Plagiarizing occurs whenever you pass off as your own the writings of others. In the field, for example, we plagiarize whenever, in the interest of time, we copy previous orders and modify them to fit present operations. However, this is not acceptable practice at CGSC or any other educational institution. Neither is it acceptable whenever we write an article for publication in military or civilian periodicals. This is unethical behavior and a form of cheating. Most plagiarizing at CGSC occurs whenever the writer paraphrases another writer. Whenever you paraphrase a writer, you need to capture the gist of the quotation without using the writer's own words. Also, you must ensure that you document your source.

The following examples illustrate this problem and how to resolve it. Example #1 is a direct quotation from Paul M. Bons' *Leadership in Organizations* that we will assume you have selected to illustrate in your paper. Example #2 is an incorrect paraphrase that is a form of plagiarism. Example #3 is an acceptable paraphrase, while example #4 is a summary.

Example #1--Direct Quote

> To be scientific is also to be critical--but, critical from a non-emotional, informed vantage point. We encourage you to join in this objective, systematic and scientific observation. In doing so, it will be possible to gain greater confidence in leadership relationships than can be gained through selective observation.[1]
>
> ———
>
> [1]Paul M. Bons, *Leadership in Organizations* (U.S. Military Academy, West Point, New York), 25.

Example #2--Incorrect Paraphrase

> If you want to be scientific you must be critical from a non-emotional, objective, systematic vantage point. It is from this viewpoint that we invite the reader to study leadership. This will enable the reader to learn more than through limited observations.[1]
>
> _____
>
> [1]Paul M. Bons, *Leadership in Organizations* (U.S. Military Academy, West Point, New York), 25.

This second example contains several phrases from the original, but as stated give the impression that the paraphrase is the writer's own creation. The phrases *"critical from a non-emotional,"* "*vantage point*," and *"objective, systematic"* are original with the author. If you include this paraphrase in your paper, you have plagiarized.

Note: We have used the parenthetical method in Examples #3 and #4 to document the source.

Example #3--Acceptable Paraphrase

> According to Bons, students of leadership will gain confidence in "leadership relationships" by practicing the "critical, non-emotional and informed scientific" approach in their study (Bons, 1981).

This paraphrase uses Bons' words in quotations while summarizing the paragraph.

Example #4--Summary

> Bons suggests students of leadership will increase their understanding by using the scientific method to study this discipline (Bons, 1981).

This final example is a summary that captures the essence of the original paragraph of Bons.

CGSC students also need to document any assistance (proofreading, content review, etc.) they have received from fellow students, faculty, and family members. You may acknowledge this help with a footnote or endnote statement.

k. Active or passive voice. The topic of active or passive voice in writing and speaking seems to create a lot of confusion. The problem is that many writers confuse ***voice*** with tense and conclude that passive voice always refers to the past while active voice refers to the present or future. ***Voice only shows whether the subject is performing the action (active voice) or receiving the action (passive voice).*** Active and passive voice never refers to tense but to action.

You form the passive voice by using a form of the verb "to be" with the past participle of the main verb. First, the past participle's endings are ***-ed*** or ***-en***. Second, some form of the auxiliary verb "*to be*" (*am, is, are, was, were, be, being, been*) will always precede the past participle. Consider the following examples. Whenever possible, let the subject of your sentences do the action.

Passive Voice	Active Voice
The M16 was fired by PFC Smith.	PFC Smith fired the M16.
The 2 1/2 ton truck was wrecked by PVT Jones.	PVT Jones wrecked the 2 1/2 ton truck.

There are times when you must use the passive voice in writing or speaking.

(1) Use passive voice when you do not know who the actor is. For example, you discover the wrecked 2 1/2 ton truck, but you don't know who was responsible. In this case use the passive voice and say "The 2 1/2 ton truck was wrecked."

(2) Use the passive voice when the receiver of the action is more important than the actor. For example, say, "The Buffalo Soldier monument was completed in 1997."

PROOF

Proofreading means to check and mark the final draft of your paper, that is, the one that you send out the door. When proofreading you look for the true mistakes--what you never intended to say. This includes typing errors, but it also includes anything else that's incorrect. If you discover too many problems for a final copy, reassess your paper, determine if you are saying what you want, make corrections to your paper, and then reprint. Reread the reprint, note any corrections, make them, and then produce the final draft.

Proofreading is most effective when you approach it systematically. One helpful technique follows three steps: reread the paper, do a spell check, and check the grammar. **First**, read your paper backwards beginning at the end and proceeding to the beginning. We call this "proofing from the bottom to the top." Look for correctly spelled words that are not the right words. For example, you may use "sight" rather than "site" when referring to a location. **Second**, use your computer to perform a spell check of the document. **Finally**, perform a grammar check of your paper. Look for such things as incomplete sentences, passive voice, verb tense agreement, and subject agreement with verbs and pronouns. The computer can assist you in this task. Although you must remember, the computer is only a tool that suggests what you can do. You, as the author, must still make the final decision on how to compose each sentence.

Once you have finished proofreading your paper, it is ready to send to your readers. Good luck, and may you always communicate what you intend to say.